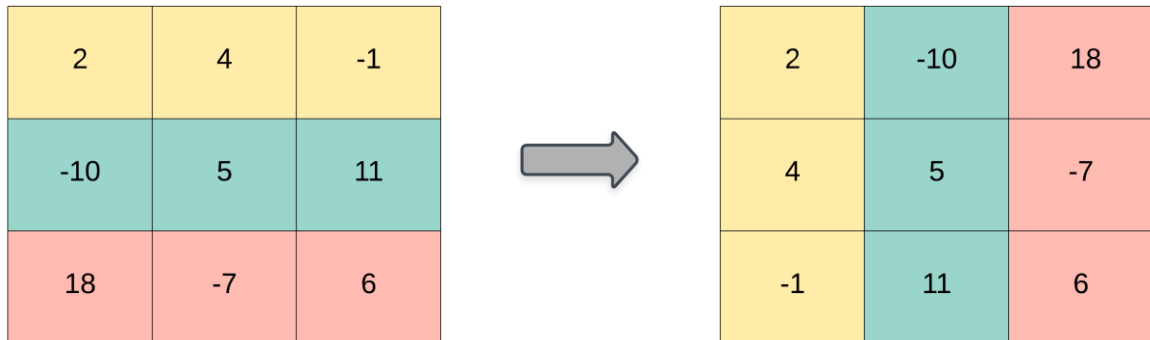# Transpose Matrix (View)

Given a 2D integer array `matrix`, return *the **transpose** of* `matrix`.

The **transpose** of a matrix is the matrix flipped over its main diagonal, switching the matrix's row and column indices.

2	4	-1
-10	5	11
18	-7	6

➡️

2	-10	18
4	5	-7
-1	11	6

Example 1:

```
Input: matrix = [[1,2,3],[4,5,6],[7,8,9]]

Output: [[1,4,7],[2,5,8],[3,6,9]]
```

Example 2:

```
Input: matrix = [[1,2,3],[4,5,6]]

Output: [[1,4],[2,5],[3,6]]
```

Constraints:

- `m == matrix.length`
- `n == matrix[i].length`
- `1 <= m, n <= 1000`
- $1 <= m * n <= 10^5$
- $-10^9 <= matrix[i][j] <= 10^9$